

Performance Expectations (PE)

3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. [Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.] [Assessment Boundary: Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 1</u> Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate the results and form reasonable conclusions of scientific investigations.	N/A		
1.1. Develop the abilities necessary to safely conduct scientific inquiry, including (a step-by-step sequence is not implied): (a) asking questions about objects, events, and organisms in the environment, (b) planning and conducting simple investigations	2		
1.2. Select and use appropriate tools including technology to make measurements (including metric units) and represent results of basic scientific investigations	3		
1.3. Use data to describe and communicate the results of scientific investigations	2		
1.4. Use models that illustrate simple concepts and compare those models to the actual phenomenon	1		
1.5. Identify a valid test in an investigation	1		
1.6. Identify how observations of nature form an essential base of knowledge among the Montana American Indians	1		

Performance Expectations (PE)

3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. [Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.] [Assessment Boundary: Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 2</u> Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.	N/A		
2.1. Create mixtures and separate them based on different physical properties (e.g., salt and sand, iron filings and soil, oil and water)			
2.2. Examine, measure, describe, compare and classify objects in terms of common physical properties	1		
2.3. Identify the basic characteristics of light, heat, motion, magnetism, electricity, and sound	3		
2.4. Model and explain that matter exists as solids, liquids, and gases and can change from one form to another	1		
2.5. Identify that the position of an object can be described by its location relative to another object and its motions described, and measured by external forces action upon it	4		
2.6. identify, build, and describe mechanical systems and the forces acting within those systems	2		
2.7. observe, measure and manipulate forms of energy: sound, light, heat, electrical, magnetic			

Performance Expectations (PE)

3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. [Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.] [Assessment Boundary: Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 3 Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.	N/A		
3.1. Identify that plants and animals have structures and systems that serve different functions for growth, survival, and reproduction			
3.2. Identify, measure, and describe basic requirements of energy and nutritional needs for an organism			
3.3. Describe and use models that trace the life cycles of different plants and animals and discuss how they are differ from species to species			
3.4. Explain cause and effect relationships between nonliving and living components with ecosystems; and explain individual response to the changes in the environment including identifying differences between inherited, instinctual, and learned behaviors			
3.5. Create and use a classification system to group a variety of plants and animals according to their similarities and differences			

Performance Expectations (PE)

3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. [Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.] [Assessment Boundary: Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 4 Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.	N/A		
4.1. Describe and give examples of earth's changing features			
4.2. Describe and measure the physical properties of earth's basic materials (including soil, rocks, water and gases) and the resources they provide			
4.3. Investigate fossils and make inferences about life, the plants, animals, and the environment at that time			
4.4. Observe and describe the water cycle and the local weather and demonstrate how weather conditions are measured			
4.5. Identify seasons and explain the difference between weather and climate			
4.6. Identify objects (e.g., moon, stars, meteors) in the sky and their patterns of movement and explain that light and heat comes from a star called the sun			
4.7. Identify technology and methods used for space exploration (e.g., star patterns, space shuttles, telescopes)			

Performance Expectations (PE)

3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. [Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.] [Assessment Boundary: Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 5 Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.	N/A		
5.1. Describe and discuss examples of how people use science and technology	1		
5.2. Describe a scientific or technological innovation that impacts communities, cultures, and societies			
5.3. Simulate scientific collaboration by sharing and communicating ideas to identify and describe problems	1		
5.4. Use scientific knowledge to make inferences and propose solutions for simple environmental problems			
5.5. Identify how the knowledge of science and technology influences the development of the Montana American Indian cultures			
Standard 6 Students understand historical developments in science and technology.	N/A		
6.1. Give historical examples of scientific and technological contributions to communities, cultures and societies, including Montana American Indian examples			
6.2. Describe how scientific inquiry has produced much knowledge about the world and a variety of contributions toward understanding events and phenomenon within the universe			
6.3. Describe science as a human endeavor and an ongoing process			

Each Performance Expectation (PE) integrates the three dimensions of the framework. Using your work above, please identify the combination of Montana's Content Standards that best reflects the entire PE, and then provide an alignment rating for the combination.

Combination of Montana Standards (e.g., 1.3 + 3.3 + 5.2)	Alignment Score	Comments/Explanation

Please answer the following questions:

Question		Comments/Explanation
Is this standard appropriate for the assigned grade level?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you currently cover this content in your classroom?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Should this Performance Expectation be used in Montana?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Performance Expectations (PE)

3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

[Clarification Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.] [Assessment Boundary: Assessment does not include technical terms such as period and frequency.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 1 Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate the results and form reasonable conclusions of scientific investigations.	N/A		
1.1. Develop the abilities necessary to safely conduct scientific inquiry, including (a step-by-step sequence is not implied): (a) asking questions about objects, events, and organisms in the environment, (b) planning and conducting simple investigations			
1.2. Select and use appropriate tools including technology to make measurements (including metric units) and represent results of basic scientific investigations	4		
1.3. Use data to describe and communicate the results of scientific investigations	3		
1.4. Use models that illustrate simple concepts and compare those models to the actual phenomenon			
1.5. Identify a valid test in an investigation	1		
1.6. Identify how observations of nature form an essential base of knowledge among the Montana American Indians	2		

Performance Expectations (PE)

3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

[Clarification Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.] [Assessment Boundary: Assessment does not include technical terms such as period and frequency.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 2</u> Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.	N/A		
2.1. Create mixtures and separate them based on different physical properties (e.g., salt and sand, iron filings and soil, oil and water)			
2.2. Examine, measure, describe, compare and classify objects in terms of common physical properties	1		
2.3. Identify the basic characteristics of light, heat, motion, magnetism, electricity, and sound	2		
2.4. Model and explain that matter exists as solids, liquids, and gases and can change from one form to another			
2.5. Identify that the position of an object can be described by its location relative to another object and its motions described, and measured by external forces action upon it	3		
2.6. identify, build, and describe mechanical systems and the forces acting within those systems	3		
2.7. observe, measure and manipulate forms of energy: sound, light, heat, electrical, magnetic			

Performance Expectations (PE)

3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

[Clarification Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.] [Assessment Boundary: Assessment does not include technical terms such as period and frequency.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 3</u> Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.	N/A		
3.1. Identify that plants and animals have structures and systems that serve different functions for growth, survival, and reproduction			
3.2. Identify, measure, and describe basic requirements of energy and nutritional needs for an organism			
3.3. Describe and use models that trace the life cycles of different plants and animals and discuss how they are different from species to species			
3.4. Explain cause and effect relationships between nonliving and living components with ecosystems; and explain individual response to the changes in the environment including identifying differences between inherited, instinctual, and learned behaviors			
3.5. Create and use a classification system to group a variety of plants and animals according to their similarities and differences			

Performance Expectations (PE)

3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

[Clarification Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.] [Assessment Boundary: Assessment does not include technical terms such as period and frequency.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 4</u> Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.	N/A		
4.1. Describe and give examples of earth's changing features			
4.2. Describe and measure the physical properties of earth's basic materials (including soil, rocks, water and gases) and the resources they provide			
4.3. Investigate fossils and make inferences about life, the plants, animals, and the environment at that time			
4.4. Observe and describe the water cycle and the local weather and demonstrate how weather conditions are measured			
4.5. Identify seasons and explain the difference between weather and climate			
4.6. Identify objects (e.g., moon, stars, meteors) in the sky and their patterns of movement and explain that light and heat comes from a star called the sun			
4.7. Identify technology and methods used for space exploration (e.g., star patterns, space shuttles, telescopes)			

Performance Expectations (PE)

3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

[Clarification Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.] [Assessment Boundary: Assessment does not include technical terms such as period and frequency.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 5</u> Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.	N/A		
5.1. Describe and discuss examples of how people use science and technology			
5.2. Describe a scientific or technological innovation that impacts communities, cultures, and societies			
5.3. Simulate scientific collaboration by sharing and communicating ideas to identify and describe problems	1		
5.4. Use scientific knowledge to make inferences and propose solutions for simple environmental problems			
5.5. Identify how the knowledge of science and technology influences the development of the Montana American Indian cultures			
<u>Standard 6</u> Students understand historical developments in science and technology.	N/A		
6.1. Give historical examples of scientific and technological contributions to communities, cultures and societies, including Montana American Indian examples			
6.2. Describe how scientific inquiry has produced much knowledge about the world and a variety of contributions toward understanding events and phenomenon within the universe			
6.3. Describe science as a human endeavor and an ongoing process			

Each Performance Expectation (PE) integrates the three dimensions of the framework. Using your work above, please identify the combination of Montana's Content Standards that best reflects the entire PE, and then provide an alignment rating for the combination.

Combination of Montana Standards (e.g., 1.3 + 3.3 + 5.2)	Alignment Score	Comments/Explanation

Please answer the following questions:

Question		Comments/Explanation
Is this standard appropriate for the assigned grade level?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you currently cover this content in your classroom?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Should this Performance Expectation be used in Montana?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Performance Expectations (PE)

3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. [Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.] [Assessment Boundary: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 1 Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate the results and form reasonable conclusions of scientific investigations.	N/A		
1.1. Develop the abilities necessary to safely conduct scientific inquiry, including (a step-by-step sequence is not implied): (a) asking questions about objects, events, and organisms in the environment, (b) planning and conducting simple investigations	3		
1.2. Select and use appropriate tools including technology to make measurements (including metric units) and represent results of basic scientific investigations			
1.3. Use data to describe and communicate the results of scientific investigations			
1.4. Use models that illustrate simple concepts and compare those models to the actual phenomenon			
1.5. Identify a valid test in an investigation			
1.6. Identify how observations of nature form an essential base of knowledge among the Montana American Indians			

Performance Expectations (PE)

3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. [Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.] [Assessment Boundary: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 2 Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.	N/A		
2.1. Create mixtures and separate them based on different physical properties (e.g., salt and sand, iron filings and soil, oil and water)			
2.2. Examine, measure, describe, compare and classify objects in terms of common physical properties	1		
2.3. Identify the basic characteristics of light, heat, motion, magnetism, electricity, and sound	2		
2.4. Model and explain that matter exists as solids, liquids, and gases and can change from one form to another			
2.5. Identify that the position of an object can be described by its location relative to another object and its motions described, and measured by external forces action upon it	3		
2.6. identify, build, and describe mechanical systems and the forces acting within those systems	1		
2.7. observe, measure and manipulate forms of energy: sound, light, heat, electrical, magnetic	1		

Performance Expectations (PE)

3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. [Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.] [Assessment Boundary: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 3 Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.	N/A		
3.1. Identify that plants and animals have structures and systems that serve different functions for growth, survival, and reproduction			
3.2. Identify, measure, and describe basic requirements of energy and nutritional needs for an organism			
3.3. Describe and use models that trace the life cycles of different plants and animals and discuss how they are different from species to species			
3.4. Explain cause and effect relationships between nonliving and living components with ecosystems; and explain individual response to the changes in the environment including identifying differences between inherited, instinctual, and learned behaviors			
3.5. Create and use a classification system to group a variety of plants and animals according to their similarities and differences			

Performance Expectations (PE)

3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. [Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.] [Assessment Boundary: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 4</u> Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.	N/A		
4.1. Describe and give examples of earth's changing features			
4.2. Describe and measure the physical properties of earth's basic materials (including soil, rocks, water and gases) and the resources they provide			
4.3. Investigate fossils and make inferences about life, the plants, animals, and the environment at that time			
4.4. Observe and describe the water cycle and the local weather and demonstrate how weather conditions are measured			
4.5. Identify seasons and explain the difference between weather and climate			
4.6. Identify objects (e.g., moon, stars, meteors) in the sky and their patterns of movement and explain that light and heat comes from a star called the sun			
4.7. Identify technology and methods used for space exploration (e.g., star patterns, space shuttles, telescopes)			

Performance Expectations (PE)

3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. [Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.] [Assessment Boundary: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 5 Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.	N/A		
5.1. Describe and discuss examples of how people use science and technology			
5.2. Describe a scientific or technological innovation that impacts communities, cultures, and societies			
5.3. Simulate scientific collaboration by sharing and communicating ideas to identify and describe problems			
5.4. Use scientific knowledge to make inferences and propose solutions for simple environmental problems			
5.5. Identify how the knowledge of science and technology influences the development of the Montana American Indian cultures			
Standard 6 Students understand historical developments in science and technology.	N/A		
6.1. Give historical examples of scientific and technological contributions to communities, cultures and societies, including Montana American Indian examples			
6.2. Describe how scientific inquiry has produced much knowledge about the world and a variety of contributions toward understanding events and phenomenon within the universe			
6.3. Describe science as a human endeavor and an ongoing process			

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Combination of Montana Standards (e.g., 1.3 + 3.3 + 5.2)	Alignment Score	Comments/Explanation

Please answer the following questions:

Question		Comments/Explanation
Is this standard appropriate for the assigned grade level?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you currently cover this content in your classroom?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Should this Performance Expectation be used in Montana?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Performance Expectations (PE)

3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.* [Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 1</u> Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate the results and form reasonable conclusions of scientific investigations.	N/A		
1.1. Develop the abilities necessary to safely conduct scientific inquiry, including (a step-by-step sequence is not implied): (a) asking questions about objects, events, and organisms in the environment, (b) planning and conducting simple investigations	1		
1.2. Select and use appropriate tools including technology to make measurements (including metric units) and represent results of basic scientific investigations			
1.3. Use data to describe and communicate the results of scientific investigations	1		
1.4. Use models that illustrate simple concepts and compare those models to the actual phenomenon			
1.5. Identify a valid test in an investigation			
1.6. Identify how observations of nature form an essential base of knowledge among the Montana American Indians			

Performance Expectations (PE)

3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.* [Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 2 Students, through the inquiry process, demonstrate knowledge of properties, forms, changes and interactions of physical and chemical systems.	N/A		
2.1. Create mixtures and separate them based on different physical properties (e.g., salt and sand, iron filings and soil, oil and water)			
2.2. Examine, measure, describe, compare and classify objects in terms of common physical properties	1		
2.3. Identify the basic characteristics of light, heat, motion, magnetism, electricity, and sound	1		
2.4. Model and explain that matter exists as solids, liquids, and gases and can change from one form to another			
2.5. Identify that the position of an object can be described by its location relative to another object and its motions described, and measured by external forces action upon it	1		
2.6. identify, build, and describe mechanical systems and the forces acting within those systems	2		
2.7. observe, measure and manipulate forms of energy: sound, light, heat, electrical, magnetic	2		

Performance Expectations (PE)

3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.* [Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.

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Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
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3.3. Describe and use models that trace the life cycles of different plants and animals and discuss how they are different from species to species			
3.4. Explain cause and effect relationships between nonliving and living components with ecosystems; and explain individual response to the changes in the environment including identifying differences between inherited, instinctual, and learned behaviors			
3.5. Create and use a classification system to group a variety of plants and animals according to their similarities and differences			

Performance Expectations (PE)

3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.* [Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.]

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
Standard 4 Students, through the inquiry process, demonstrate knowledge of the composition, structures, processes and interactions of Earth's systems and other objects in space.	N/A		
4.1. Describe and give examples of earth's changing features			
4.2. Describe and measure the physical properties of earth's basic materials (including soil, rocks, water and gases) and the resources they provide			
4.3. Investigate fossils and make inferences about life, the plants, animals, and the environment at that time			
4.4. Observe and describe the water cycle and the local weather and demonstrate how weather conditions are measured			
4.5. Identify seasons and explain the difference between weather and climate			
4.6. Identify objects (e.g., moon, stars, meteors) in the sky and their patterns of movement and explain that light and heat comes from a star called the sun			
4.7. Identify technology and methods used for space exploration (e.g., star patterns, space shuttles, telescopes)			

Performance Expectations (PE)

3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.* [Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.

Response Count: 5

Montana Science Content Standards	Gap Analysis Count	Alignment Score	Alignment Comments
<u>Standard 5</u> Students, through the inquiry process, understand how scientific knowledge and technological developments impact communities, cultures and societies.	N/A		
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5.3. Simulate scientific collaboration by sharing and communicating ideas to identify and describe problems			
5.4. Use scientific knowledge to make inferences and propose solutions for simple environmental problems	1		
5.5. Identify how the knowledge of science and technology influences the development of the Montana American Indian cultures	1		
<u>Standard 6</u> Students understand historical developments in science and technology.	N/A		
6.1. Give historical examples of scientific and technological contributions to communities, cultures and societies, including Montana American Indian examples	2		
6.2. Describe how scientific inquiry has produced much knowledge about the world and a variety of contributions toward understanding events and phenomenon within the universe	2		
6.3. Describe science as a human endeavor and an ongoing process			

Alignment Scoring Tool**Grade 3 - Forces and Interactions****Spring 2014**

Each Performance Expectation (PE) integrates the three dimensions of the framework. Using your work above, please identify the combination of Montana's Content Standards that best reflects the entire PE, and then provide an alignment rating for the combination.

Combination of Montana Standards (e.g., 1.3 + 3.3 + 5.2)	Alignment Score	Comments/Explanation

Please answer the following questions:

Question		Comments/Explanation
Is this standard appropriate for the assigned grade level?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Do you currently cover this content in your classroom?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Should this Performance Expectation be used in Montana?	<input type="checkbox"/> Yes <input type="checkbox"/> No	